

WHAT IS CLAIMED IS:

1. A system for optimizing a request-promise workflow, the system comprising:

a first entity operable to:

5 produce one or more supplies; and
 optimize its production of the supplies to
 generate a promise for the supplies; and

a second entity operable to:

optimize its production of a demand to generate
a request for the supplies;

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communicate\ the request to the first entity;
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receive a promise for the supplies from the first entity based on the request; and

reoptimize its production of the demand to generate a new request if the promise does not satisfy the request.

2. The system of Claim 1, further comprising a communication link operable to convey information between the first entity and the second entity.

3. The system of Claim 1, wherein the second entity is further operable to repeat the following steps until the promise satisfies the request:

5 optimizing its production of a demand to generate a request for the supplies;

communicating the request to the first entity;

receiving a promise for the supplies from the first entity based on the request; and

10 reoptimizing its production of the demand to generate a new request if the promise does not satisfy the request.

4. The system of Claim 1, wherein:

15 the first entity is further operable to optimize its production of the supplies independently of the second entity; and

the second entity is further operable to optimize its production of the demand independently of the first
20 entity.

5. The system of Claim 1, wherein:

the request comprises a first request for a first supply and a second request for a second supply; and

25 the promise comprises a first promise for the first supply and a second promise for the second supply.

6. The system of Claim 5, wherein:
the second promise does not satisfy the second
request; and

5 the second entity is further operable to optimize
its production to generate a new request using the second
promise as a constraint.

7. The system of Claim 1, wherein:

10 the request comprises a bundled request for at least
two supplies to produce the demand;

the promise in response to the bundled request
comprises a first promise, a second promise, and a
culprit identifying the second promise as the cause for
15 not satisfying the bundled request; and

the second entity is operable to reoptimize its
production to generate a new request using the second
promise as a constraint.

20 8. The system of Claim 1, wherein:

the promise comprises an optimization objective and
a promise constraint; and

the second entity is operable to reoptimize its
production to generate a new request using the promise
25 constraint and the optimization objective.

9. The system of Claim 1, wherein the second
entity is operable to generate a request in accordance
with one or more internal resources.

10. The system of Claim 1, wherein the second entity is operable to communicate a demand promise to a client if the promise satisfies the request.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

11. A method for optimizing a request-promise
workflow, the method comprising:
establishing a demand, wherein one or more supplies
5 are needed to satisfy the demand;
assuming that the supplies are unlimited;
optimizing the production of the demand to generate
a request for the supplies needed to satisfy the demand;
communicating the request to a supplier;
10 receiving a promise from the supplier;
determining whether the promise satisfies the
request; and
if the promise does not satisfy the request,
reoptimizing the production of the demand to generate a
15 new request.

12. The method of Claim 11, further comprising
repeating the following steps until the promise satisfies
the request:
20 optimizing the production of the demand to generate
a request for the supplies needed to satisfy the demand;
communicating the request to a supplier;
receiving a promise from the supplier;
determining whether the promise satisfies the
25 request; and
if the promise does not satisfy the request,
reoptimizing the production of the demand to generate a
new request.

13. The method of Claim 11, wherein:
the request comprises a first request for a first
supply and a second request for a second supply; and
5 the promise comprises a first promise for the first
supply and the second promise for a second supply.

14. The method of Claim 13, wherein:
the second promise does not satisfy the second
10 request; and
the step of reoptimizing the production of the
demand to generate a new request further comprises using
the second promise as a constraint.

15. The method of Claim 11, wherein:
the request comprises a bundled request having a
first request for a first supply and a second request for
a second supply; and
the promise comprises a first promise, a second
20 promise, and a culprit identifying the second promise as
the cause for not satisfying the bundled request.

16. The method of Claim 15, wherein the step of
reoptimizing the production of the demand to generate a
25 new request further comprises using the second promise as
a constraint.

17. The method of Claim 15, wherein the bundled
request comprises the supplies required for one demand.

18. The method of Claim 11, wherein:
the promise comprises an optimization objective and
a promise constraint; and

5 the step of reoptimizing the production of the
demand to generate a new request further comprises using
the promise constraint and the optimization objective.

19. The method of Claim 11, wherein:

10 the step of optimizing the production of the demand
to generate a request of the supplies needed to satisfy
the demand further comprises generating the request in
accordance with one or more internal resources; and

15 the step of reoptimizing the production of the
demand to generate a new request further comprises
generating the new request in accordance with one or more
internal resources.

20 20. The method of Claim 11, wherein determining
whether the promise satisfies the request comprises
determining whether the promise falls within an
acceptable range.

25 21. The method of Claim 11, further comprising
communicating a demand promise to a client if the promise
satisfies the request.

22. A method for optimizing a request-promise workflow, the method comprising:

~~establishing a demand, wherein one or more supplies
are needed to satisfy the demand;~~

5 assuming that the supplies are unlimited;

optimizing the production of the demand to generate a first request for a first supply and a second request for a second supply needed to satisfy the demand;

communicating the first request to a first supplier;

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10      communicating the second request to a second

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supplier;
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receiving a first promise for the first supply from
the first supplier;

receiving a second promise for the second supply

15 from the second supplier;

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    determining whether the first promise satisfies the
first request;

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determining whether the second promise satisfies the second request; and

20 if the first promise does not satisfy the first
request or the second promise does not satisfy the second
request, reoptimizing the production of the demand to
generate a new first request and a new second request.

23. The method of Claim 22, further comprising
repeating the following steps until the first promise
satisfies the first request and the second promise
satisfies the second request:

optimizing the production of the demand to generate
a first request for a first supply and a second request
for a second supply needed to satisfy the demand;

communicating the first request to a first supplier;

communicating the second request to a second
supplier;

receiving a first promise for the first supply from
the first supplier;

receiving a second promise for the second supply
from the second supplier;

determining whether the first promise satisfies the
first request;

determining whether the second promise satisfies the
second request; and

if the first promise does not satisfy the first
request or the second promise does not satisfy the second
request, reoptimizing the production of the demand to
generate a new first request and a new second request.

24. The method of Claim 22, wherein:

the second promise does not satisfy the second
request; and

the step of reoptimizing the production of the
demand to generate a new first request and a new second
request further comprises using the second promise as a
constraint.

25. The method of Claim 22, wherein the request comprises a bundled request for one or more supplies required for one demand.

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26. The method of Claim 25, wherein the request further comprises a sub-bundled request for the supplies supplied by the first supplier.

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27. The method of Claim 26, further comprising:
receiving a first promise for the first supply from
the first supplier, wherein the first promise comprises a
culprit identifying a culprit promise that does not
satisfy the sub-bundled request; and

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reoptimizing the production of the demand to
generate a new first request and a new second request
using the culprit promise as a constraint.

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28. The method of Claim 26, further comprising:
receiving a first promise for the first supply from
the first supplier, wherein the first promise comprises a
first culprit promise that does not satisfy a first sub-
bundled request;

receiving a second promise for the second supply
from the second supplier, wherein the second promise
comprises a second culprit promise that does not satisfy
a second sub-bundled request, wherein the second sub-
bundled promise is larger than the first sub-bundled
promise;

reoptimizing the production of the demand to
generate a new first request and a new second request
using the first culprit promise as a constraint.

29. The method of Claim 22, wherein:

the first promise comprises an optimization
objective and a promise constraint; and

the step of reoptimizing the production of the
demand to generate a new first request and a new second
request further comprises using the promise constraint
and the optimization objective.

30. The method of Claim 22, wherein:

the step of optimizing the production of the demand
to generate a first request for a first supply and a
second request for a second supply needed to satisfy the
demand further comprises generating the first request in
accordance with one or more internal resources; and

the step of reoptimizing the production of the
demand to generate a new first request and a new second
request further comprises generating the new first
request and a new second request in accordance with one
or more internal resources.

31. The method of Claim 22, wherein determining
whether the first promise satisfies the first request
comprises determining whether the first promise falls
within an acceptable range.

32. The method of Claim 22, further comprising
communicating a demand promise to a client if the first
promise satisfies the first request and the second
promise satisfies the second request.

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